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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/684,616	10/10/2000	Takashi Hashimoto	198427US2	2258

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OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

NGUYEN, JIMMY H

ART UNIT	PAPER NUMBER
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2673

20

DATE MAILED: 04/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/684,616

Applicant(s)

HASHIMOTO ET AL.

Examiner

Jimmy H. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is made in response to applicant's amendment filed on 02/23/04 (entered into the file wrapper as Paper No. 19). Claims 1-11 are currently pending in the application. An action follows below:

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-8, 10 and 11 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding to claims above, the disclosure, when filed, does not contain sufficient information regarding to two claimed features together in a plasma display panel device and an associate method, (i) "a scan electrode including t strip portions" and (see independent claim 1, line 7, and independent claim 10, line 9) and (ii) "a sustain electrode including t strip portions" (see independent claim 1, line 10, and independent claim 10, line 12). The disclosure, specifically first embodiment as illustrated in figure 1, discloses that each of the row electrodes X1 to Xn corresponds to a strip portion of a scan electrode (see page 20, lines 21-22), and each of the row electrodes YL1 to YLn and YR1 to YRn corresponds to a strip portion of a sustain electrode (see page 20, lines 14-17). In other words, if a scan electrode includes t strip portions, a sustain electrode must include 2t strip portions (i.e., t left strip portions and t right strip portions).

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In other words, if a scan electrode includes t strip portions, a sustain electrode must include 2t strip portions (i.e., t left strip portions and t right strip portions). Furthermore, the disclosure, specifically third embodiment as illustrated in figure 8, discloses that each of the row electrodes X1 to Xn corresponds to a strip portion of a scan electrode, and each of the row electrodes Y1 to Yn corresponds to a strip portion, but does not disclose expressly including the claimed feature, “applying a first voltage ... discharge cell” (see independent claim 1, lines 16-19, and independent claim 10, lines 18-21). However, the disclosure does not describe in detail a combination of the first and third embodiments to arrive the claimed invention defined in independent claims 1 and 10, so as to enable one skilled in the pertinent art to make and use the claimed invention.

4. The following rejections to claims 1-8, 10 and 11 are based as best understood by the examiner due to the above rejection under 35 USC 112, first paragraph.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-8, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanazawa et al. (USPN: 6,140,984), hereinafter Kanazawa, and further in view of Ryan et al. (USPN: 4,090,109), hereinafter Ryan.

As per claims 1, 2, 5, 6 and 10, Kanazawa discloses a plasma display panel (PDP) device and an associate method, the PDP device (see fig. 23) comprising an AC plasma display panel

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(PDP 2), which comprises an address electrode (address electrodes 209/A1-Am) including t strip portions (i.e., each of address electrode A1-Am corresponding to each strip portion, see fig. 2), t discharge cells (see fig. 2), a scan electrode (Y electrode 208) including t strip portions (i.e., each of electrodes Y1 to YN corresponding to the claimed strip portion), a sustain electrode (X electrode 207) including t strip portions (i.e., each of electrodes X1 to XN corresponding to the claimed strip portion), and a dielectric substance (a dielectric layer 207C, best seen in fig. 3, col. 2, line 65), and a driving unit (a driving unit comprising drivers 22, 27, 28, 30 and 31, see fig. 23) for applying a prescribed voltage V_a to address electrodes (see fig. 26), applying a prescribed voltage ($-V_Y$) to each of electrodes Y1-YN (see fig. 23) to cause writing discharge based on image data, and applying a first voltage (V_X) to odd electrodes (X1, X3, ...) (or to one of two ($t = 2$) strip portions) to cause writing sustain discharge during a first-half odd line scan period since the potential difference between the potential of the selected Y electrode and the potential of the selected odd electrodes (X1, X3) is greater than the minimum sustain discharge voltage, while applying a second voltage (OV), which cannot cause the writing sustain discharge during a first-half line scan period, to remaining all of the electrodes (X2, X4, ...), since the potential difference between the potential of the selected Y electrode and the potential of the non-selected even electrodes (X2, X4) is smaller than the minimum sustain discharge voltage. See figs. 21 and 26, and col. 19, lines 19, lines 7-33. Accordingly, the difference between the Kanazawa reference and the invention defined in claims above is the strip portions of the address electrode being connected to an output terminal of the driving unit in common.

However, Ryan discloses that strip portions (electrodes 36/67, see fig. 1 and 4) of the address electrode are connected to an output terminal (P1, P2, ...) of the driving unit (a unit

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including phased shift voltage generator, see fig. 1). It would have been obvious to one skilled in the art at the time of the invention was made to connect Kanazawa strip portions of the address electrodes to a common output terminal of the Kanazawa driving unit, in view of the teaching in the Ryan reference, because this would reduce number of addressing circuits connected to the address electrodes, as taught by Ryan (see col. 1, lines 50-59), thereby reducing the cost of manufacturing the PDP device.

Regarding to claims 3 and 4, as noting in figs. 25 and 26, Kanazawa further teaches that the first potential difference, $[50V - (-150V) = 200V]$, is larger than the second potential difference, which is substantially equal to zero volt (OV), because the even sustain electrode X is at the ground potential and hence no discharge transition takes place in the pair of the scanning electrode Y and the even sustain electrode X.

Regarding to claims 7 and 8, as noting in fig. 26 and at col. 20, lines 34-42), Kanazawa further teaches that after the period of odd line scan, forming the first or second auxiliary discharge.

Regarding to claim 11, Kanazawa further teaches the PDP comprising a plurality of non-discharge cells (non-discharge slits, see abstract) having non-discharge gaps (gaps about 200 micrometer, see fig. 25, col. 14, lines 24-28), each of discharge cells having a discharge gap about 100 micrometer (discharge slits, see fig. 25, col. 14, lines 24-28) and a plurality of barrier ribs (ribs or barriers 207E, best seen in fig. 1, col. 14, line 17).

7. Claims 1-8, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanazawa et al. (USPN: 6,140,984), hereinafter Kanazawa, and further in view of Nakayama et al. (USPN: 3,881,129), hereinafter Nakayama.

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As per claims 1, 2, 5, 6 and 10, as discussed in the rejection above, Kanazawa discloses all the claimed limitations except that the strip portions of the address electrode are connected to an output terminal of the driving unit in common.

However, Nakayama expressly teaches that strip portions (column electrodes Y1, Y4, Y7, ..., see fig. 2) of the address electrode is connected to an output terminal (SA) of the driving unit (an inherent driving unit supplies the voltages to electrodes Y1, Y2, ..., Yk, via terminals SA, SB and SC, fig. 2, col. 3, lines 41-47), strip portions (column electrodes Y2, Y5, ..., see fig. 2) of the address electrode is connected to an output terminal (SB) of the driving unit, and strip portions (column electrodes Y3, Y6, ..., see fig. 2) of the address electrode is connected to an output terminal (SC) of the driving unit. It would have been obvious to one skilled in the art at the time of the invention was made to connect Kanazawa strip portions of the address electrodes to a common output terminal of the Kanazawa driving unit, in view of the teaching in the Nakayama reference, because this would reduce a number of terminals connected to the electrodes, as taught by Kanazawa (col. 1, lines 7-9), thereby reducing the cost of manufacturing the PDP device.

Regarding to claims 3, 4, 7, 8 and 11, see the rejection to claims 3, 4, 7, 8 and 11 above.

8. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicants' Admitted Prior Art, hereinafter AAPA, and further in view of Gay et al (USPN: 5,086,257), hereinafter Gay.

As per claim 9, as noting in figure 10 and the corresponding description, AAPA discloses an AC plasma display panel comprising an address electrode (a column electrode 108), t discharge cells having discharge gaps (DG) (each cell occupying a discharge area, see page 3,

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lines 22-23), a scan electrode (row electrode 104), a sustain electrode (a row electrodes 105), a dielectric layer (106A), a plurality of non-discharge cells having non-discharge gaps (NG) (page 4, lines 2-4) and a plurality of barrier ribs (110). Further, an address electrode (108) includes t strip portions (i.e., each portion, extending between two adjacent row electrodes (104) and including a display area and a non-display area, is considered as the claimed strip portion, see page 3, line 20 through page 4, line 5, and all strip portions are integrated to form a single address electrode), a scan electrode (104) includes t strip portions (i.e., each portion between two adjacent barrier ribs (110) is considered as the claimed strip portion of the scan electrode, and all strip portions are integrated to form a single scan electrode 104), and a sustain electrode (105) includes t strip portions (i.e., each portion between two adjacent barrier ribs (110) is considered as the claimed strip portion of the sustain electrode, and all strip portions are integrated to form a single sustain electrode 105). AAPA further discloses discharge cells arranged on the same plane and arranged adjacently to each other through a non-discharge cell in a direction intersecting with a display line or parallel with the barrier ribs (110) (see fig. 10). AAPA further teach a plurality of barrier ribs (110) extending along a direction orthogonal to the display line (see fig. 10). Accordingly, AAPA teaches all the claimed limitations except that the discharge cell are arranged adjacently to each other through at least one the non-discharge cell in a direction parallel to the display line, so that the barrier ribs separates the discharge cells from the non-discharge cells in a direction parallel to the display line, as recited in claim 9.

However, Gay expressly teaches the discharge cell (pixel PX1, PX2, ..., figs. 1 and 4, col. 5, lines 58-59) are arranged adjacently to each other through at least one the non-discharge cell (a simple crossing Cs, figs. 1 and 4, col. 5, lines 50-51) in a horizontal direction parallel to a

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display line and in a vertical direction intersecting with the display line (figs. 1 and 4). It would have been obvious to one skilled in the art at the time of the invention was made to arrange the discharge cell adjacently to each other through at least one the non-discharge cell in a horizontal direction parallel to a display line and in a vertical direction intersecting with the display line, in the PDP of AAPA, in view of the teaching in the Gay reference, so that the AAPA barrier ribs separates the discharge cells from the non-discharge cells in a direction parallel to the display line, because this would increase the speed of obtaining the images displayed by the panel, as taught by Gay (col. 1, lines 7-10).

Double Patenting

9. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

10. Claim 9 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 2 of Hashimoto et al. (USPN: 6,603,263 B1), hereinafter Hashimoto. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 9 of the present application has a broader version than that of claim 2 of the patent, and the patent and the application are claiming common subject matter, as follows: an AC PDP comprising an address electrode including t strip portions (a

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plurality of strip third electrodes, see Hashimoto, claim 2, line 17), t discharge cells (a plurality of discharge cells, see Hashimoto, claim 1, lines 2-5), a scan electrode including t strip portion (Hashimoto, claim 1, lines 14-15, claim 2, lines 9-14), a sustain electrode (Hashimoto, claim 1, lines 14-15, claim 2, lines 9-14), a dielectric substance (Hashimoto, claim 2, lines 15-16), a plurality of non-discharge cells (Hashimoto, claim 1, lines 6-13), and a plurality of barrier ribs (Hashimoto, claim 2, lines 6-8). Further, the arrangement of all elements recited in claim 2 of the Hashimoto reference inherently implies the plurality of barrier ribs extending along a direction orthogonal to the display line and separating the discharge cells from the non-discharge cells in a direction parallel to the display line.

Response to Arguments

11. The claim objection to claim 9 in the last Office Action dated 10/21/2003 is hereby withdrawn in view of the amendment to claim 9, filed 02/23/2004.

12. With respect to the rejection under 35 USC 112, first paragraph, to claims 1-8, 10 and 11, Applicants submits Figs. X and Y to support for the statement, "there is no necessity for a sustain electrode to include two t strip portions if a scan electrode includes t strip portions", see page 9, last paragraph, through page 10, line 14. Examiner disagrees because (i) the disclosure, as pointed out by Applicants, specifically page 20, line 20, to page 21, line 6, does not render implicitly that the number of strip portions included in the X sustain electrode is not necessary to be double the number of strip portions included in the X sustain electrode, in order to perform the step of "applying a first voltage ... discharge cell" (see claim 1, last 4 lines), since the relationship of i_1 and i_2 (i_1 is not equal i_2) is not related to the number of strip portions in the X or Y electrode; (ii) Fig. X does not correspond to any of **original** figures, therefore it raises the

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issue of new matter, and (iii) Fig. Y corresponds to the Fig. 1, which expressly shows each strip portion (X_{i1}) arranged with two strip portions (Y_{Li1} , Y_{Ri1}), so that a sustain electrode (Y) includes two t strip portions if a scan electrode (X) includes t strip portions. For these reasons, this rejection is therefore maintained.

13. With respect to the rejection under 35 USC 103(a) as unpatentable over Kanazawa in view of Ryan to claims 1-8, 10 and 11, Applicants' argument filed "the shift electrode disclosed in Ryan et al. does not function as an address electrode", see the amendment, page 11, lines 11-12. Examiner disagrees because the function of the addressing electrode in a DC PDP, which requires two different electrodes, and the function of the addressing electrode in a AC PDP, which requires three different electrodes, function the same, i.e., both for providing voltages to the discharge cells (or pixels) to write the image into the pixels, in accordance with the input video signal. Further see Ryan, fig. 4, and col. 9, lines 50-66. Further, Applicants' argument filed "Ryan et al. is not relied upon to disclose a step that would apply a second voltage to all remaining strip portions of a sustain electrode, with the second voltage not causing a writing sustain discharge", see the amendment, page 11, lines 12-15. Examiner notes Applicants that this feature is expressly taught by the Kanazawa reference. See the new ground of rejection above.

14. With respect to the rejection under 35 USC 103(a) as unpatentable over Kanazawa in view of Nakayama to claims 1-8, 10 and 11, Applicants' argument filed "Nakayama et al. does not disclose that the third electrodes C1 and C2 apply a first voltage to one of said t strip portions of said sustain electrode belonging to a single discharge cell among said t discharge cells, as recited in Claim 1 of the present application", see the amendment, page 11, last paragraph through page 12, line 2. Examiner notes Applicants that this feature is expressly taught by the

Kanazawa reference. See the new ground of rejection above. Further, Applicants' argument filed "Accordingly, even if Kanazawa et al. disclose applying first and second voltage as recited in claims 1 and 10 of the present application, it would not have been obvious to one of ordinary skill in the art to adopt the electrode configuration of Nakayama et al. in Kanazawa et al.", see the amendment, page 13, lines 6-9. It is noted Applicants that, as described in the rejection above, there is no involvement to adopt the electrode configuration of Nakayama in the Kanazawa reference, but there is just a teaching in the Nakayama in the Kanazawa reference, i.e., a connection of Kanazawa strip portions of the address electrodes to a common output terminal of the Kanazawa driving unit, in view of the teaching in the Nakayama reference.

15. With respect to the rejection under 35 USC 103(a) as unpatentable over AAPA in view of Gay to claim 9, Applicants' argument filed "Gay et al. does not teach or suggest a plurality of barrier ribs separating the non-discharge cells from the discharge cells", see the amendment, page 13, lines 17-19. As discussed in the detailed rejection above, the combination of Gay with AAPA obviously discloses the AAPA barrier ribs separating the discharge cells from the non-discharge cells in a direction parallel to the display line. See the detailed rejection above.

16. With respect to the rejection under under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 2 of Hashimoto to claim 9 of the present application, Applicants' argument filed "the barrier ribs described in claim 2 ... , are not defined to perform the function of separating the discharged cells from the non-discharge celss as recited in claim 9 of the present invention", page 14, lines 5-8. As discussed in the detailed rejection above, the arrangement of all elements recited in claim 2 of the Hashimoto reference inherently implies the plurality of barrier ribs separating the discharge cells from the non-discharge cells in

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a direction parallel to the display line, as recited in claim 9 of the present application. Further, Applicants state that the strip portions of the address electrode of claim 9 of the present application are not shown in the limitation of third electrodes in claim 2 of the Hashimoto reference, see the amendment, page 14, lines 8-10. Examiner disagrees because Applicants do not provide the differences between the strip portions of the address electrode defined in claim 9 of the present application, and the third electrodes defined in claim 2 of the Hashimoto reference.

Conclusion

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jimmy H. Nguyen whose telephone number is (703) 306-5422. The examiner can normally be reached on Monday - Thursday, 8:00 a.m. - 5:00 p.m..

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached at (703) 305-4938.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231


or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

JHN
April 2, 2004



BIPIN SHALWALA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600